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ABSTRACT

Data were gathered through telephone survey of a random sample of 91 urban men and 97 farm operators to study pollution attitudes, knowledge, and household pollution abatement behavior among urban residents and farmers. The results indicate that urban men are more concerned about pollution, more willing to allocate tax money to clean up pollution, have greater knowledge about the pollution of the city water supply, and are more likely to practice pollution abatement in their households. Demographic and socioeconomic background characteristics are better predictors of attitudes than of behavior. Analyses of the simultaneous effects of background variables and attitudes yield little about variables affecting knowledge acquisition, but indicate that pollution behavior is related to both situational factors (marital status among urban men, older age among the farmers) and attitudinal concern. It is argued that adherents to voluntaristic strategies of pollution abatement are essentially displaying a rationale for inaction. (Author)

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POLLUTION ATTITUDES, KNOWLEDGE AND BEHAVIOR OF FARMERS AND URBAN MEN*

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POLLUTION ATTITUDES, KNOWLEDGE AND BEHAVIOR OF FARMERS AND URBAN MEN

A B S T R A C T

Data were gathered through telephone survey of a random sample of 91 urban men and 97 farm operators from the surrounding county to study pollution attitudes, knowledge, and household pollution abatement behavior among urban residents and farmers.

The results indicate that urban men are more concerned about pollution, more willing to allocate tax money to clean up pollution, have greater knowledge about the pollution of the city water supply, and are more likely to practice pollution abatement in their households. Demographic and socio-economic background characteristics are better predictors of attitudes than of behavior.

Analyses of the simultaneous effects of background variables and attitudes yield little about variables affecting knowledge acquisition, but indicate that pollution behavior is related to both situational factors (marital status among the urban men, older age amont the farmers) and attitudinal concern. It is argued that adherents to voluntaristic strategies of pollution abatement are essentially displaying a rationale for inaction.

POLLUTION ATTITUDES, KNOWLEDGE AND BEHAVIOR OF FARMERS AND URBAN MEN

Introduction

Concern about environmental quality in the United States has almost attained the status of a social movement and seems to have pervaded most institutional areas of social life. The purpose of this paper is to investigate the configuration of the environmental 'crisis' at the local level by studying the involvement of certain groups, specifically farm and urban residents, in community pollution action.

The paper has three objectives. The first is to determine differences between farm and urban residents in their concern and knowledge about local pollution conditions, acceptance of anti-pollution laws, and involvement in home pollution abatement practices. The second goal is to measure the influence of life cycle and social class factors on these pollution attitudes, knowledge and behavior as they affect both farm and urban people. The final objective is to establish an explanatory model of pollution knowledge and behavior by combining the influence of background factors with pollution attitudes.

The Research Setting

The setting of the study is Decatur, Illinois, a central city of about one hundred thousand located in the flat fertile corn country of eastern Illinois. Its water supply is Lake Decatur, fed by the Sangamon River which winds its way down through farmland north of the city. The town's economic system is partly dependent on several soybean processing plants which rely on local farm production. These factories are infamous for their obnoxious, stomach-burning odors, which constitute the town's most noticeable pollution problem. A much less visible but potentially

more serious concern is the seasonal oversupply of nitrates in Lake Decatur. According to public health officials and university researchers, most notably Barry Commoner (1971), this pollution is caused by runoff of nitrate fertilizers which local farmers depend on to produce their spectacular corn yields. Debate on this issue has appeared intermittently in the local newspapers for over several years. However, national publicity focused on Decatur in the fall of 1971 when Commoner's work appeared in the New Yorker, where he described the plight of Decatur to illustrate his research on the harmful effects of farm chemicals. More fuel was added as he also alluded to medical research establishing a correlation between nitrate water pollution and methemoglobinemia or "blue-babyism" among female infants. Now, the attention of the press was really caught and Decatur hit the headlines.

The sides of this controversy were clearly drawn, with local economic interests such as the farmers and their organizations, seed corn and fertilizer companies on one side, and on the other, the public welfare, as spoken for by the public health department, Commoner's research group and community environmental interests. Decatur was in the process of reacting and adjusting to a local pollution issue with deep-seated and far-reaching economic implications. This paper reports the impact of the environmental quality movement, both in terms of this specific controversy and the general movement, on members of opposing camps, farmers and urban residents.

Objectives

In analyzing the data, the concern is to explain differences in household behavior as well as differences in the acquisition of knowledge regarding the nitrate pollution in the Lake Decatur water supply. Household behavior is a short notation for participation in pollution minimizing behavior, a variable which is discussed more often than measured. We are

focusing on household practices which were advocated by the environmental movement. Morrison, et. al., (1972: 264-65) point out that the individual voluntary pollution abatement activities of people are one indicator of participation in the environmental movement.[1]

The basic objective is to identify the variables which are useful in explaining household behavior and knowledge acquisition and the differences that may exist between farmers and urban residents.

Underlying the analysis is a heuristic model based on the assumption that both household behavior and the acquisition of knowledge are partly determined by the characteristics of the respondent or the household he lives in. These personal characteristics may determine household behavior and knowledge acquisition both directly and indirectly through intervening attitudes about pollution, which are themselves related to personal characteristics.[2]

In the area of environmental quality, little research exists to help select important variables in determining household behavior and knowledge acquisition. On the basis of research in consumer behavior and adoption, we selected two measures of social status: education and occupation (or farm size in the case of farmers). We also included age because of its reputed relationship to environmental concerns. Family size and marital status are included because of their importance for affecting household behavior, and because the effects of nitrate pollution in water are especially threatening to newborn infants.

We selected three attitudinal variables for their likely importance in determining household behavior and knowledge acquisition: concern about the existence of pollution, willingness to spend funds on pollution rather than on other social problems, and voluntarism.

Some research has been done on the correlates of environmental concern. McEvoy (1972:226-228) points out that concern increases as the exposure to pollution increases. He reports that residents of large urban areas are more concerned about pollution in general, and air pollution in particular, but less concerned about water pollution than those in rural areas. Dillman and Christenson (1972:237-250) also find concern to be related to community size but they do not find the opposing trends between water and air pollution found by McEvoy. In addition, they find that valuation of pollution control, in terms of spending priority, is only weakly related to population density.

In addition to concern about pollution, we investigated voluntarism, which is the belief that desirable social outcomes can be obtained most equitably by relying on individual responsibility for action rather than enforced compliance with government regulation. Voluntarism is widely argued as a strategy for pollution control; if people are given the facts and reasons behind the necessity for pollution abatement, then they will cooperate, thus eliminating the need for cumbersome, inadequate regulations which necessitate costly enforcement agencies. For example, farmers often cite the successful experiences of agricultural extension services in farm modernization programs in enlisting voluntary farmer cooperation. Morrison et. al.(1972:264-265) point out that the initial stage of the environmental movement was imbued with a strong element of voluntarism. We assumed that a commitment to voluntarism is positively related to pollution abatement behavior.

The present analysis takes place in three steps. The first is to determine the differences between farmers and urban residents for the following variables: (a) concern about the seriousness of local pollution problems; (b) knowledge about the specific nitrate pollution in Decatur; (c) attitudes toward implementing pollution control measures; and (d) household pollution practices. Much of the concern for a deteriorating

environment is expressed by urban residents, supposedly because they live in more densely populated and industrialized environments. On the other hand, during the hearings of the Illinois Pollution Board, representatives of farmers and related interest groups frequently expressed the sentiment that since farmers are close to nature, they are concerned about ecology and can be depended on to voluntarily avoid polluting practices. Since the Lake Decatur nitrate pollution issue clearly pitted rural and urban interests against one another, this was an opportune case to evalute these arguments.

The second step is to determine how well personal characteristics such as social status, age, and stage in the family life cycle explain pollution knowledge, attitudes and behavior differently for the farm and urban sample. Previous studies (Burch, et. al., 1972, passim) have found concern to be related to age, education, and to some extent affluence.

Finally, the combined influences of personal characteristics and pollution-related attitudes on knowledge and behavior will be assessed. As outlined above we expect personal characteristics to affect attitudes, behavior and knowledge acquisition. The attitudes--concern, spending priority and voluntarism--are further expected to intervene between background characteristics and the dependent variables of pollution knowledge and behavior. Differences between the farm and urban sample will be used to illuminate the model.

Operationalizations of the Variables

With the exception of the measures of personal characteristics, the variables in this analysis are indices made up of two to five component items. Respondents were scored on their knowledge of the source of nitrate pollution in Lake Decatur, and the main victims of its negative

effects.[3] Scoring is a simple additive process and ranges from 0 (no correct information) to 2 (indicating two correct answers). The knowledge index is situationally specific and objective, for the facts about this environmental condition are reasonably ascertainable as either correct or incorrect.

Concern about pollution problems was measured in two ways. First, an index was constructed of five items in which respondents rated the seriousness of various types of pollution in their area. These include car and truck exhaust, industrial odors, nitrogen water pollution, and litter. Four-point scores were summed, divided by the number of items answered, and multiplied by 10 to eliminate decimals. This concern index ranges from 10 to 40 and measures the seriousness of these local pollution conditions as evaluated by the respondent.

Secondly, we constructed an index measuring the respondents' judgment of the importance of pollution when compared to other social problems. The respondent was asked if local tax money should be spent on the local problems of pollution or on each of the following: recreational facilities, providing jobs, crime prevention, farm support, cancer, or education. A resulting index ranging from 0 to 6 measures the priority of local spending for pollution in relation to these other social and economic problems.

Voluntarism was measured by a combination of four questions asking whether such behavior as the purchase of leaded gas, non-returnable bottles, smoking in closed public places, and polluting farm practices should either be prohibited by law or be left to individual responsibility. A high score of 30 on this index reveals a position favoring voluntarism (personal responsibility), while a low score of 10 indicates a readiness to depend on government regulation.

Household pollution behavior was measured in terms of practices that have received publicity as pollution abaters. Respondents were asked how often they bought non-leaded gas, burned rubbish and leaves, used returnable bottles, recycled newspapers, and used a low phosphate laundry detergent.[4] Ranging from 10 to 30, this index measures the frequency of such practices in each respondent's household.

Three life cycle and two social class variables comprise the background factors. Respondent's age in years, marital status,[5] (coded as a dichotomous variable with married coded as "1" and all other as "2") and number of children make up the life cycle cluster. Occupation and education measure social class standing. Since occupation is constant among the farmers, the size of farm operated is used as an indicator of economic standing. Comparing the two groups on these background factors shows the average Decatur men to have fewer children and more education than the average farm respondent.

Data Gathering

The data are based on telephone interviews with 200 Decatur residents and 97 farmers in Macon County. Both samples were randomly selected; the farm sample includes only farm operators, which almost by definition excluded women; the urban sample contains an equal representation of men and women. Because preliminary analysis shows sex to be a powerful differentiating factor in the urban sample, and since the farm sample contains no women, the women in the urban sample were deleted to make the analysis as parallel as possible. The resultant urban sample is made up of 91 men.

The instrument is a closed-end questionnaire derived from open-end personal interviews held with key figures in the local controversy. The data were collected by the Survey Research Laboratory at the University

of Illinois the first two weeks of January, 1972. The refusal rate was low with only 11 percent of the rural and 16 percent of the urban sample refusing to answer.

Differences Between Farmers and Urban Men

Comparing the pollution attitudes, knowledge and behavior of urban versus rural men shows statistically significant differences on four of the five variables (Table 1). The urban men expressed significantly more concern about local pollution conditions than did farmers. Such problems as car exhaust and industrial odors were seen as more serious by urban residents. Since these pollution conditions are due to the density of population and industry in the city, the heightened concern by Decatur residents reinforces McEvoy's finding that those who are closer to polluted living conditions are more concerned about their environment (1972:226-228).

(Table 1 about here)

Another measure of greater concern of the urban men is revealed by their willingness to spend money to correct polluted conditions. They ranked pollution problems significantly higher than other local problems in terms of tax allocation. The farmers on the other hand gave pollution a significantly lower rank.

Knowledge acquisition and household behavior patterns also differed significantly between the two samples. The urban men were more informed about the nitrate pollution issue than were farmers despite the fact that this particular form of pollution originates on the farm. The index of household pollution-abatement behavior was significantly higher among urban than farm men, indicating that activities such as collecting bottles and newspapers, using low-phosphate detergents and non-leaded gas were more common among urban households than rural families.

The only variable that did not differentiate between the two samples was the voluntarism attitude. Both farmers and urban men revealed the same leaning toward government regulation of personal pollution behavior.

These findings lead to the conclusion that proximity to the effects of polluting behavior is more powerful in stimulating concern, worry and action than is closeness to the origin of polluted conditions. Higher level of concern, awareness of the facts and involvement in anti-pollution activities by city men are responses to the greater deterioration of their local living conditions, while farmers, who are removed from the consequences of their own behavior as well as traditional sources of urban pollution, are more complacent.

Effect of Personal Characteristics on Pollution Attitudes, Knowledge and Behavior

The extent to which social class, stage in the life cycle, and age explain the observed differences in attitudes, knowledge and behavior between the farm and urban men is reported in Table 2.

(Table 2 about here)

Voluntarism. Among the urban men, only the life cycle variables of age and marital status explain variations in this attitude. The young and the unmarried men[6] advocate individual responsibility in controlling polluting behavior. Among the farmers, some life cycles and status variables exert equal influence. Farmers with few children advocate individual responsibility, as do those with more education.

Concern about environmental quality among Decatur men is well explained by background factors, especially life cycle variables, all three of which are significantly related. Advanced education also contributes toward environmental concern. These four variables explain 20 percent of the variance among the urban men, with age having

twice the explanatory power of marital status, family size, or education.

Among the farmers, environmental concern is again best explained by the same life cycle and social status variables which related to voluntarism. Education is a particularly powerful factor, having twice as much explanatory power as family size in the rural group. Farmers' education also outranks urbanites' education in its ability to predict concern about pollution.

It is worth noting that for both samples the number of children in the household is positively related to the concern about environmental quality, indicating probably both the educational influence of the children and the future orientation of the environmental concern.

Local Spending Priority. Age was equally significant in both samples--young men are more willing to spend local tax money on pollution as compared to other problems. However, social status has an opposite effect in the two samples, for occupation is positively related in the urban sample, but farm size is negatively related among the farmers. It seems that operators of smaller farms are more willing to spend money on pollution rather than on other social problems. In this respect they agree with the wealthier rather than the poorer urban residents.

Knowledge about Nitrate Pollution. Awareness of correct pollution information is poorly predicted by background factors in both samples. Only family size among the farmers appears to be a significant predictor. In the urban group, none of the background factors have any significant effect.

Household Behavior. The married state among urban men is the only important background predictor of "clean" household behavior such as

recycling newspapers and bottles, and using low-phosphate detergents. Among the farmers, only the households of older men can be specifically identified as following these practices.

To summarize the effects of life cycle and status influences, it appears that they more effectively predict the three attitudes toward pollution than either knowledge of the specific nitrate pollution issue, or household pollution-minimizing behavior. In the urban sample, stages in the life cycle, specifically youth and single marital status, are most effective in explaining a high level of concern about local problems and a high level of voluntarism with regard to controlling polluting behavior.

In the farm sample, the influence on these three attitudes is split between life cycle and social class variables, specifically size of family and educational attainment. Age has only a fraction of the power it has in the urban group, indicating that the generally accepted conclusion that concern about environmental quality is characteristic of young people is too expansive. Young urban men are clearly more concerned than older urban men, which confirms the findings of other analyses (Burch, et. al, 1972, passim). However, young farmers are no different than older farmers in their attitudes toward pollution, indicating that the relationship between youth and environmental concern does not hold for farm people.

Predicting Knowledge and Behavior

Attitudinal variables are added to personal characteristics in order to increase the predictability of pollution knowledge and behavior. The basic regression analyses are shown in Table 3, while Figure 1 integrates the underlying model for the analysis with the results of the combined analysis.[7]

(Table 3 and Figure 1 about here)

Knowledge. Neither the background characteristics nor the attitudinal items had much power to explain variations in knowledge about the Lake Decatur water-pollution issue in either sample. In fact, the only significant predictor is family size in the farm sample. Since newspapers headlined the danger of nitrate pollution to female babies, it is possible that people with more children caught and remembered this information. Among the urban sample, several variables such as educational level and voluntarism possess sizable Beta weights but do not reach statistical significance.

A preliminary analysis revealed that the level of knowledge about the Lake Decatur pollution does not affect household pollution behavior among either farmers or urban men. The finding that knowledge of the facts is not related to pollution attitudes and behavior is somewhat surprising in view of our assumption that reaction to environmental conditions was partially based on information. However, that assumption was not supported by the evidence. It appears that those who are aware of the facts about pollution are not the ones who are either concerned about local pollution or are changing their everyday behavior to improve the environment. Another possible interpretation is that the information about this particular issue was not noticed by the people who are sensitive to pollution conditions.

Household Behavior. Among the farm respondents the pattern of combined influence is quite clear-cut. Concern about local pollution and older age exert the only sizable direct influence on household anti-pollution behavior (see Table 3). However, Figure 1 indicates that the interpretation of these results may be complex. On the one hand, we find that age is a powerful direct influence on pollution behavior, but

is not a good predictor of concern. Concern is related positively to both household size and years of education completed, variables which do not exert significant direct influence on household behavior.

From this evidence, we conclude that household behavior is displayed by two different types of farmers. One type is the older farmer whose behavior is apparently not motivated by environmental concerns, but by long established consumption patterns based on thrift and modest wants derived from a "waste-not, want-not" ideology. On the other hand, these same consumption patterns are also practiced by the farmer who expresses serious concern about local environmental conditions. Presumably he is following the advice of the environmental movement that people become less polluting and return to the less-wasteful behavior characteristic of pre-affluence days.

The urban men are also characterized by the interaction between background and attitudinal factors. Three variables, marital status, concern and voluntarism all have about the same explanatory power. Married men, environmentally concerned men, and those who favor the use of government force rather than voluntarism, score the highest on the index of household practices (see Table 3). However, the relationships among these factors are more complex than at first appears.

We showed above that both attitudes of concern and voluntarism are predicted by the same background variables, among others, youth and single marital status. However, our analysis shows no relationship between these attitudes, meaning that the values of concern and voluntarism are not held by the same people. Further, these attitudes exert opposite influences on household behavior: concern is positively related, while voluntarism is a negative predictor.

(Tables 4 and 5 about here)

To unravel these findings, the total influences of the variables, marital status and age, were disassembled into their direct and indirect components (Tables 4 and 5). It is clear that marital status is a simple influence; most of its impact is direct. Its indirect effects via the two attitudes are very small but they work in opposite directions from one another. Age, on the other hand, has very little direct influence but considerable indirect influence transmitted through the attitudes of concern and voluntarism. As in the case of marital status, the indirect influences of age through concern and voluntarism work in opposite directions. Therefore, it appears that attitudes of concern and voluntarism are important variables in explaining household pollution behavior but these attitudes do not operate in the same direction.

Discussion

Household pollution behavior is explained by two different kinds of factors which involve different social categories in both urban and rural areas. One type of explanation is situational--among farmers it is older age, and among the urban men it is being married. The older farmers are adhering to a household pattern of frugality and saving established in times of economic depression. In the city, married men have wives to carry out these consumption patterns like saving newspapers and bottles. This behavior demands more time, organization, and possibly even storage space than single men may have at their disposal. It also seems intuitively persuasive that unmarried people who have to support themselves as well as run their households will be more attracted to the convenience products and throw-away packaging. The existence of such powerful situational determinants of household pollution behavior casts doubt on its definition as participation in the environmental movement. For some people, for

example, the older farmers in our sample, their "participation" as measured by household behavior is unwitting.

In many instances, attitudes are just as powerful as situational or life cycle variables in predicting behavior. Concern about local environmental pollution is the most clear-cut motivating influence which exerts equal power among farmers and urban men. Those who are very worried about their environment modify their home consumption practices to minimize pollution.

The voluntarism attitude is not as straightforward. We originally assumed a consistency model between voluntarism and personal pollution behavior, such that those who advocate personal responsibility for all would be personally responsible in their own homes. However, among the urban men the results show the obverse to be true: those who voluntarily practice pollution abatement advocate the use of government regulations; those advocating voluntary compliance do not practice pollution abatement.

This result, combined with the finding of the opposite indirect influence of voluntarism leads us to reinterpret the voluntarism attitude as a behavior rationale, rather than a behavior motivator. In other words, while environmental concern moves people to change their household behavior, a hands-off, personal responsibility stance allows others to continue their current polluting home practices under the rationalization of individual freedom.

The concern and voluntarism factors are different in another way, also. Environmental concern implicitly prescribes certain forms of behavior consistent with it. For example, those who define local pollution as serious should act to clean up their environment, and adversely, refrain from adding to pollution. Voluntarism, on the other hand, is essentially

a non-prescriptive statement which neither prescribes nor proscribes certain behavior. A belief in non-interference by government and personal responsibility for one's pollution behavior does not make any statement about right or wrong pollution behavior. In this way, the voluntarism attitude is a convenient expression that excuses any household behavior by divorcing it from its impact on pollution problems.

The open-ended nature of this attitude probably explains its popularity among anti-reform groups. People who argue against gun control laws and equal opportunity for women and blacks often substantiate their position by invoking this great American value of personal responsibility and voluntarism. Such a stance makes no direct reply to the actual arguments advanced, but instead focuses attention on the issue of enforcement and compliance.

While voluntarism is strongly negatively related to household behavior among the urban men, among the farmers the relationship between voluntarism and behavior is essentially non-existent. We speculate that this further supports our argument that voluntarism is largely a rationale for inaction. Since the farmers perceive less of a problem about pollution, as indicated by their lower level of concern, they have had little need to rely on the voluntaristic argument to justify their inaction. We expect the negative relationship between the voluntarism stance and actual behavior to appear quickly if the pressure for conforming behavior were to become stronger among the farmers. Such an occurrence would reinforce our interpretation of the use of the voluntaristic stance as an "excuse" for lack of change.

In conclusion, we doubt that environmental concern can be created through voluntaristic behavior strategies. We find that participation

in voluntaristic behavior and espousing voluntaristic ideology are two quite separate phenomena. Attempts to change attitudes and values by appealing for cooperation will generally reach only those who are already concerned and thus will not change anyone's values. Reducing pollution by appeals to voluntarism is equally doomed, for those who defend voluntarism were not the ones improving their household behavior. Thus, voluntarism does more to continue pollution behavior than it does to obliterate it.

FOOTNOTES

1. Although we see household behavior as an index of participation in the movement, we did not label it participation since the latter term clearly involves many other activities. We originally perceived the household index more analogous to an innovativeness index used in the study of diffusion of farm technology. The two ways of looking at the index are not contradictory.
2. For a schematic portrayal of the specific variables, see Figure 1.
3. Two more questions on the awareness of pending regulations and who would be affected by them were eliminated from this index because only very few respondents knew about them.
4. At the time of the research these practices were still considered desirable for environmental quality. "Second thoughts" about some of these practices had not been widely publicized yet.
5. Marital status is coded as a dichotomous variable, with married coded as "1" and all others as "2."
6. In the present sample the relationship between marital status and age is weak but in the direction of a heavier concentration of the currently married men among the younger respondents.
7. Only statistically significant Beta weights and their appropriate arrows are included in Figure 1.

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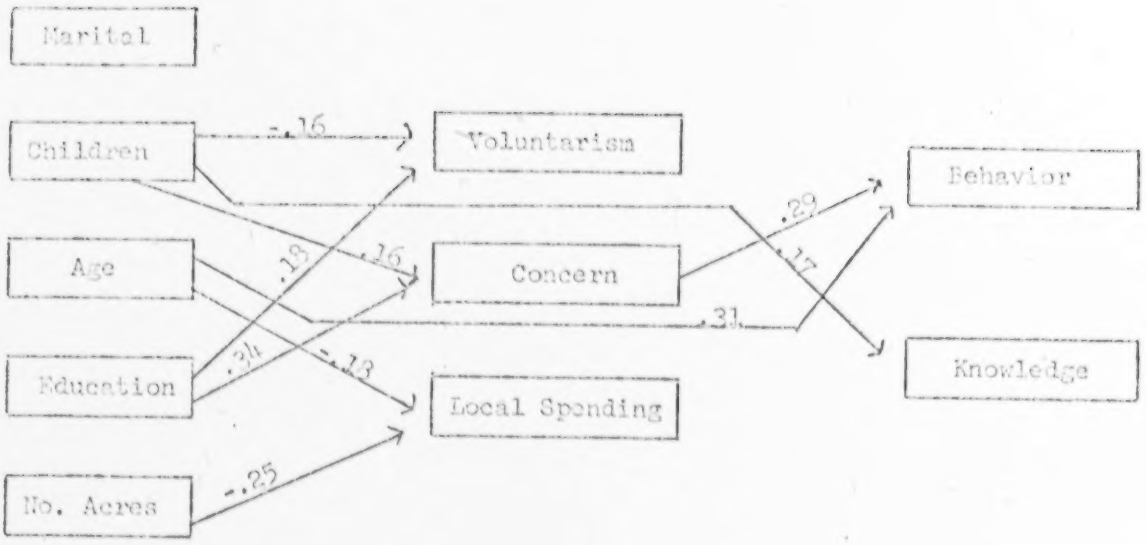
Figure 1. Paths of Influence of Personal Characteristics and Attitudes on Pollution Knowledge and Behavior for Farm and Urban Men

A. Farm Men



B. Urban Men

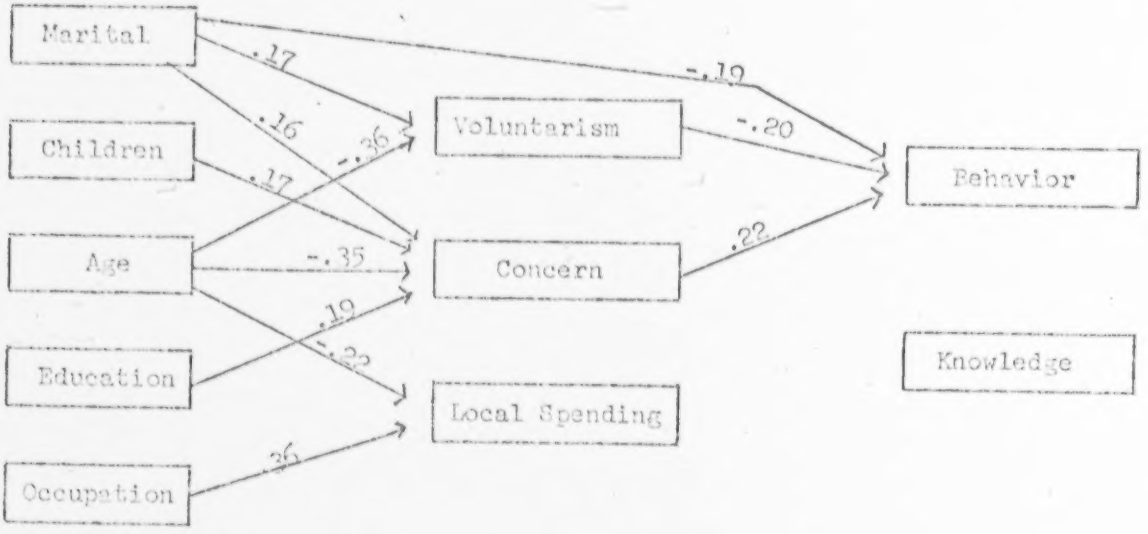


Table 1. Comparison of Farm and Urban Men on Pollution Attitudes, Knowledge and Behavior

Index	Farm Men (N=96)	Urban Men (N=91)	Z
Voluntarism	16.80	17.34	.66
Concern about Local Environmental Conditions	19.10	23.63	4.60**
Willingness to Spend Local Funds for Pollution Control	1.79	2.58	3.43**
Knowledge about Lake Decatur Issue	.80	1.03	2.76**
Household Pollution Behavior	18.61	20.30	2.87**

** Z-scores significant at .01 level.

Table 2. Regression (Beta) Weights of Personal Characteristics on Attitudes, Knowledge and Behavior for Urban and Farm Men.

Urban Men	Voluntarism	Concern	Local Spending	Knowledge of Pollution Issue	Household Behavior
Marital Status	.17*	.16*	-.05	.10	-.19*
Number of Children	-.01	.17*	.04	.09	.01
Age	-.36*	-.35*	-.22*	-.03	.02
Years of Education	-.04	.19*	-.04	.19	.14
Occupation	.03	.01	.36*	.14	-.19
R	.37*	.44*	.40*	.29	.25
Farm Men					
Marital Status	.08	-.04	-.02	-.15	-.15
Number of Children	-.16*	.16*	.04	.17*	-.01
Age	-.15	-.10	-.18*	-.03	.29*
Years of Education	.18*	.34*	.08	.01	03
Farm Size	.04	-.14	-.25*	.05	-.09
R	.37*	.38*	.27	.28	.31

* Significant at .05 level or more.

Table 3. Regression (Beta) Weights of Personal Characteristics and Pollution Attitudes on Pollution Knowledge and Household Behavior for Urban and Farm Men.

Predictor	Pollution Knowledge		Household Behavior	
	Urban Men	Farm Men	Urban Men	Farm Men
Marital Status	.06	-.15	-.19*	-.13
Number of Children	.07	.17*	-.03	-.06
Age	.08	-.00	.03	.31*
Years of Education	.18	-.01	.09	-.06
Occupation (or Farm Size)	.10	.08	-.18	-.06
Voluntarism	.15	.03	-.20*	-.02
Concern	.11	.00	.22*	.29*
Local Spending Priority	.10	.11	.01	-.07
R	.36	.30	.37	.41*
R^2	.12	.09	.13	.17

* Significant at the .05 level or more.

Table 4. Decomposition of Direct and Indirect Effects of Marital Status on Household Behavior Among Urban Men (Simple r = -.18)

	Beta
Direct Influence	-.19
Indirect Influences via	
Voluntarism (+.10)(-.20)	-.02
Concern (.19)(.22)	.04
	-.17[a]

[a] Difference between this sum and simple r is due to rounding.

Table 5. Decomposition of Direct and Indirect Influence of Age on Household Behavior Among Urban Men (simple r = -.05)

	Beta
Direct Influence	.02
Indirect Influences via:	
Voluntarism (-.36)(-.20)	.07
Concern (-.35)(.22)	-.03
Local Spending (-.22)(-.01)	-.00
	.01[a]

[a] Difference between this sum and simple r is due to rounding.

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